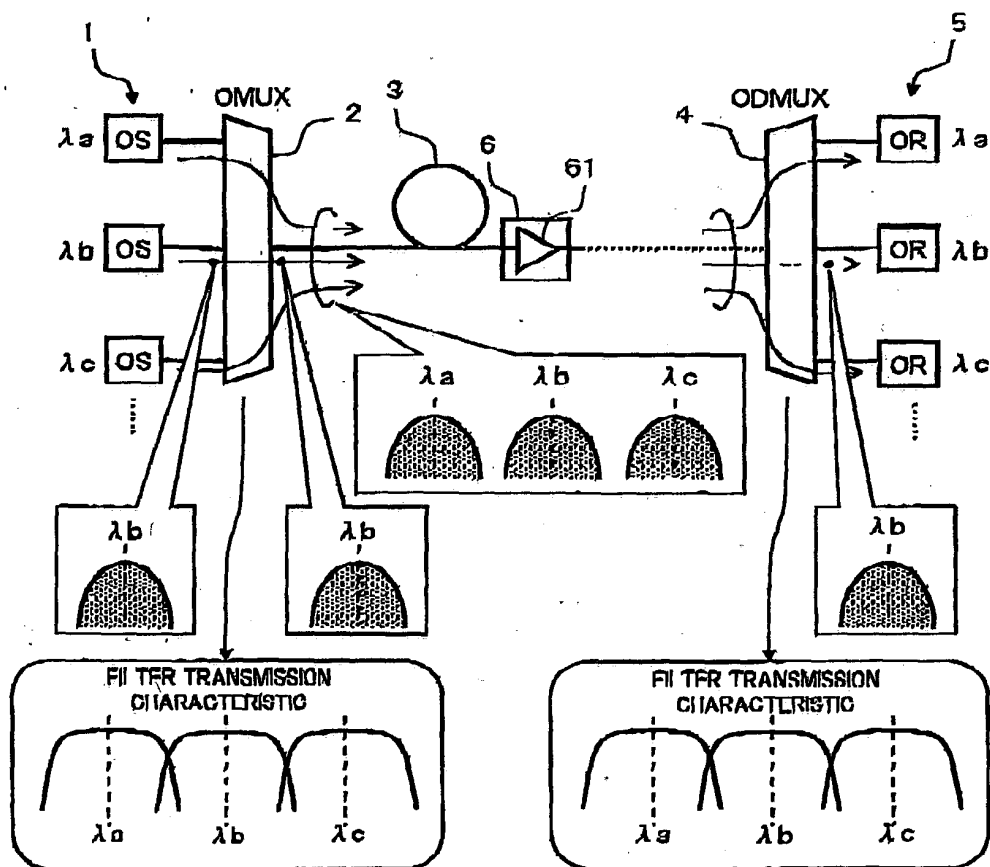


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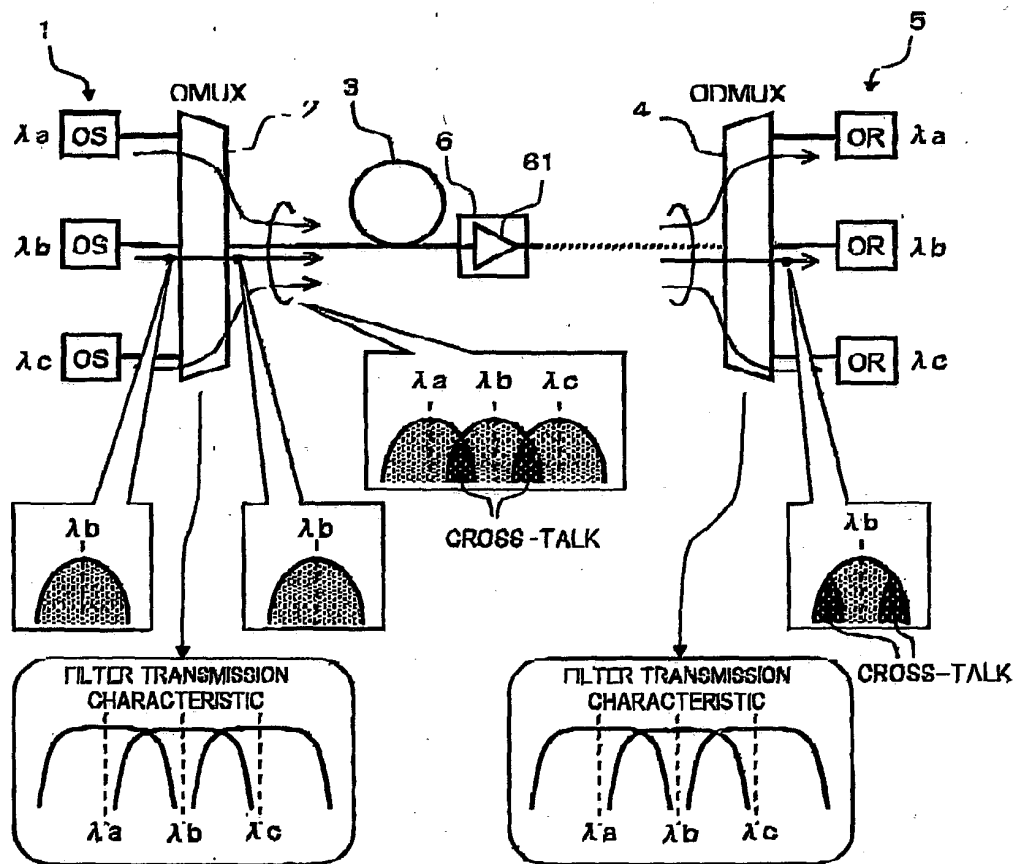
FIG.1

RELATED ART



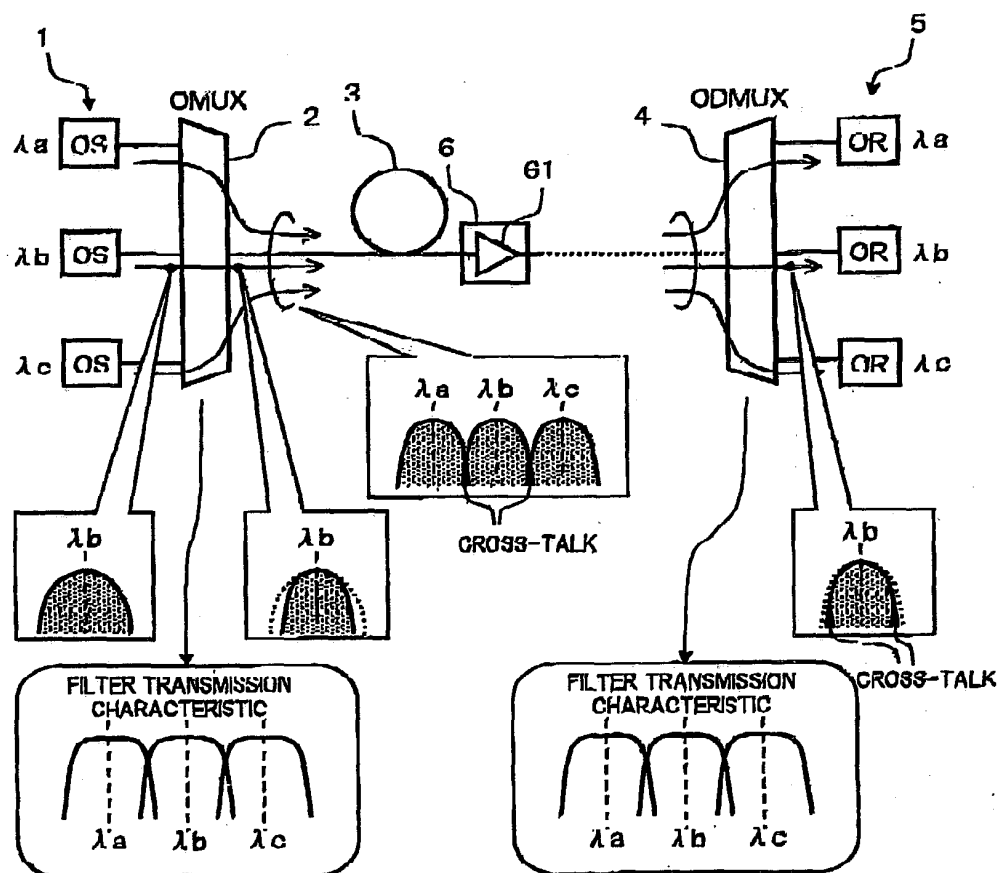
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FIG. 2



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FIG. 3



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FIG.4

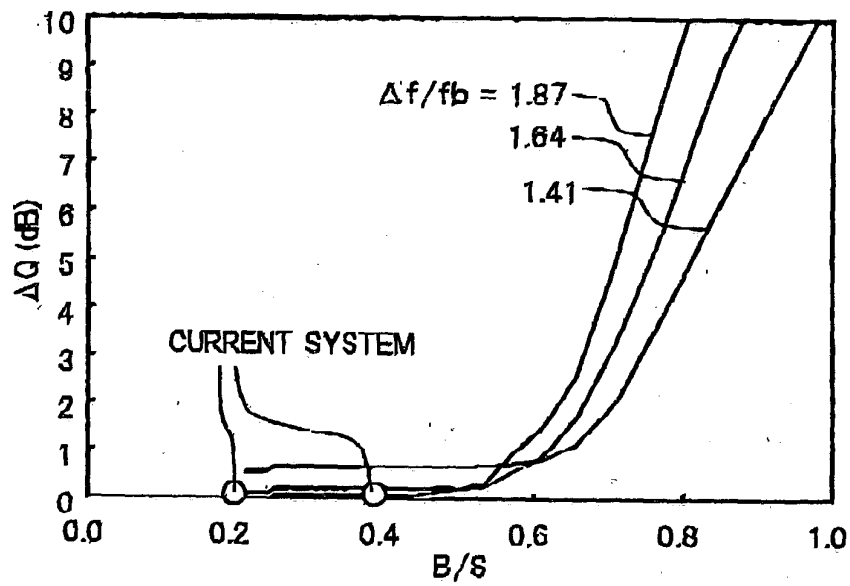
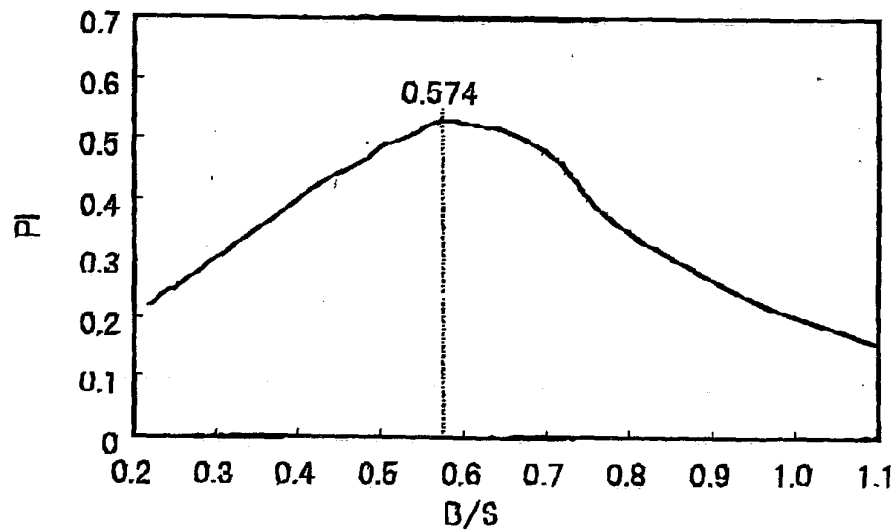
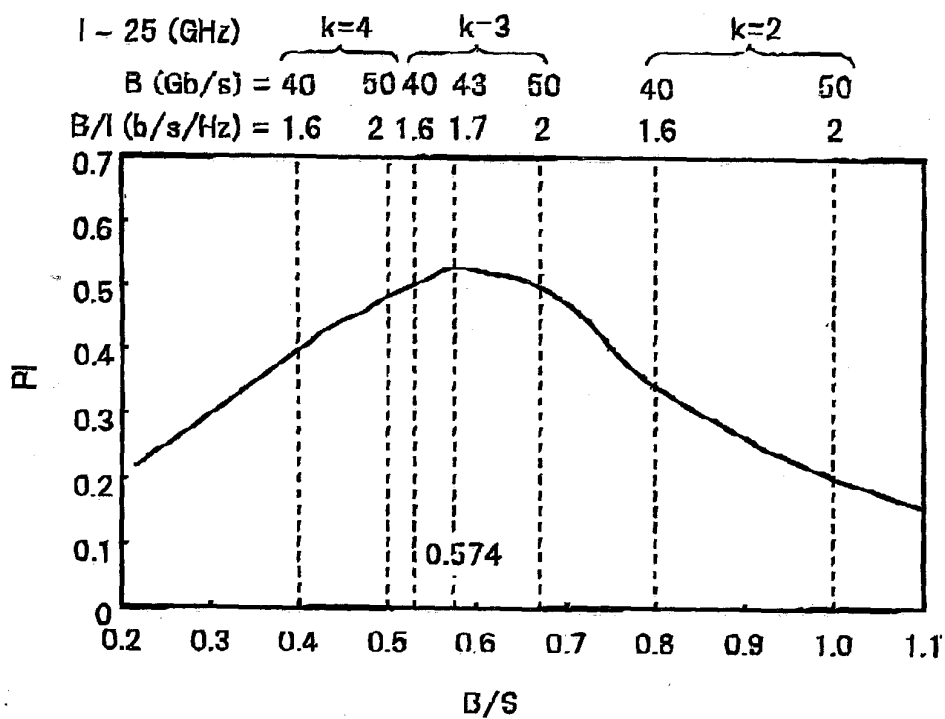


FIG.5



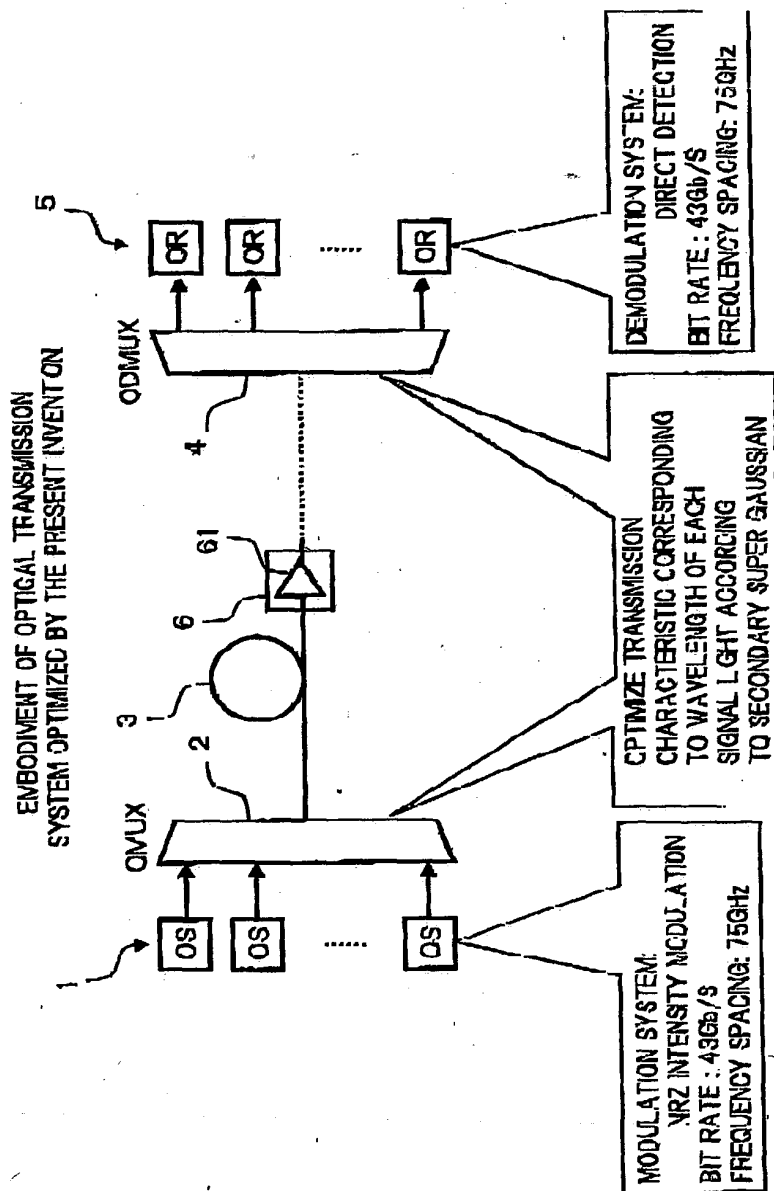
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FIG.6



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FIG. 7



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FIG.8

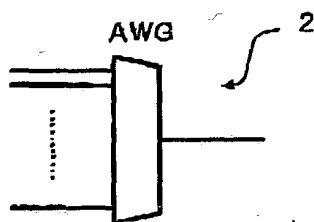
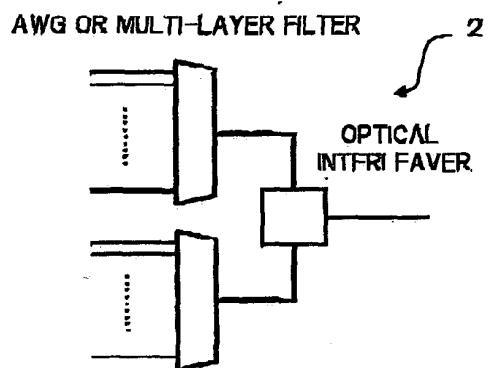


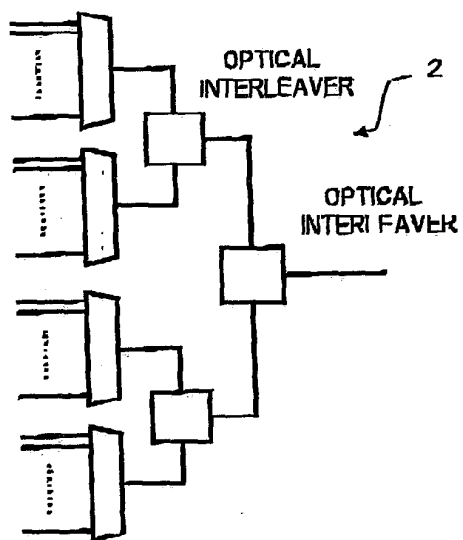
FIG.9



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FIG. 10

AWG OR MULTI-LAYER FILTER



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FIG. 11

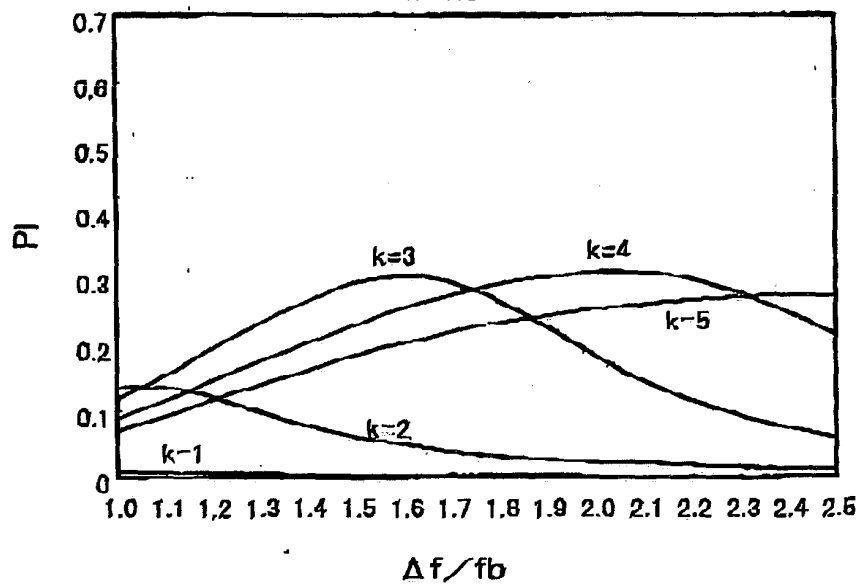
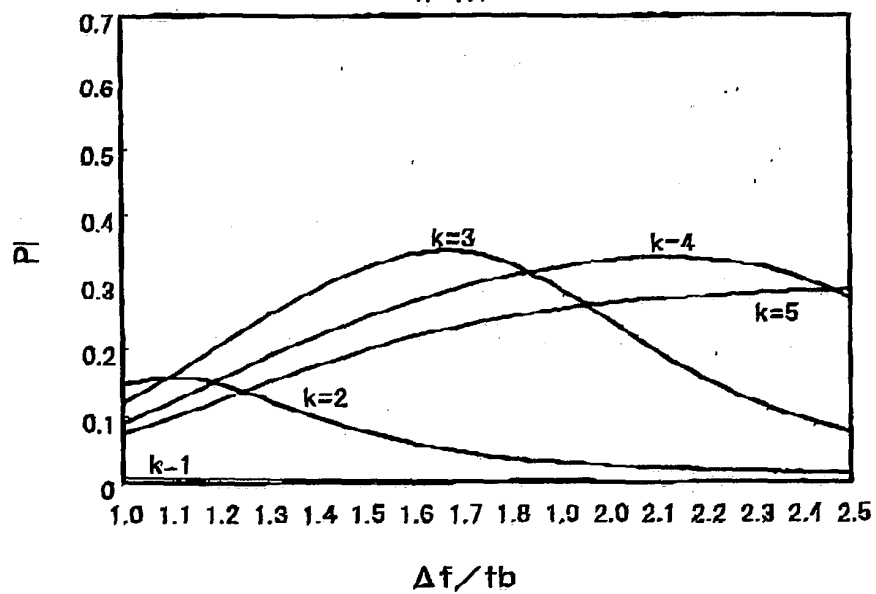
 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=1.0$ 

FIG. 12

 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=1.1$ 

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FIG.13

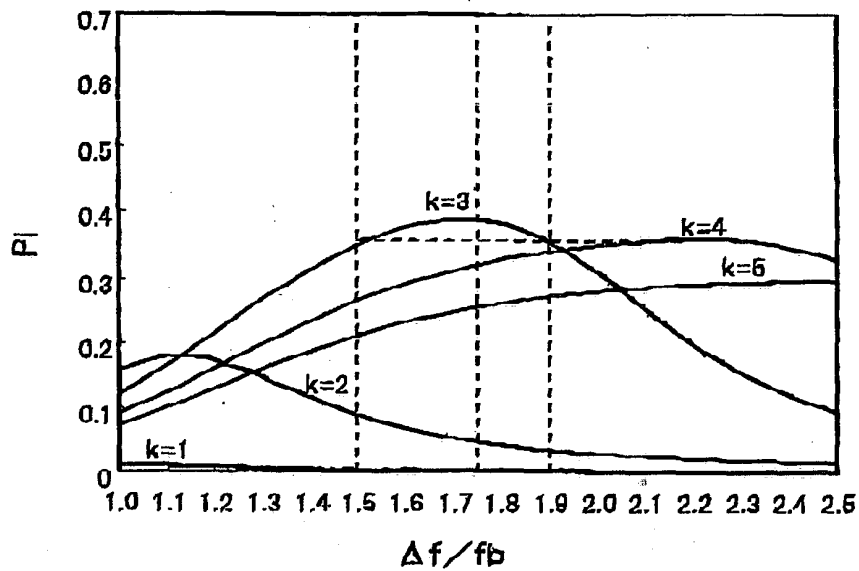
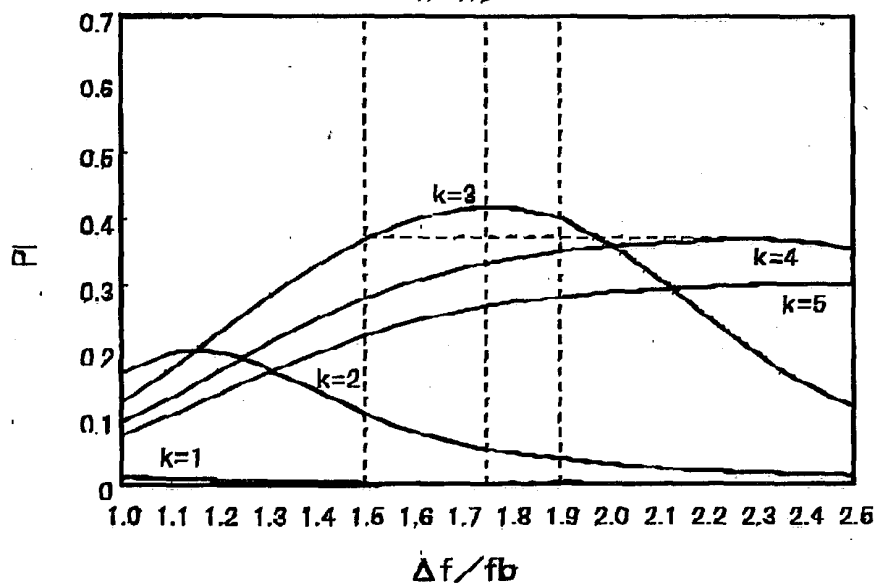
 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=1.2$ 

FIG.14

 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=1.3$ 

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FIG.15

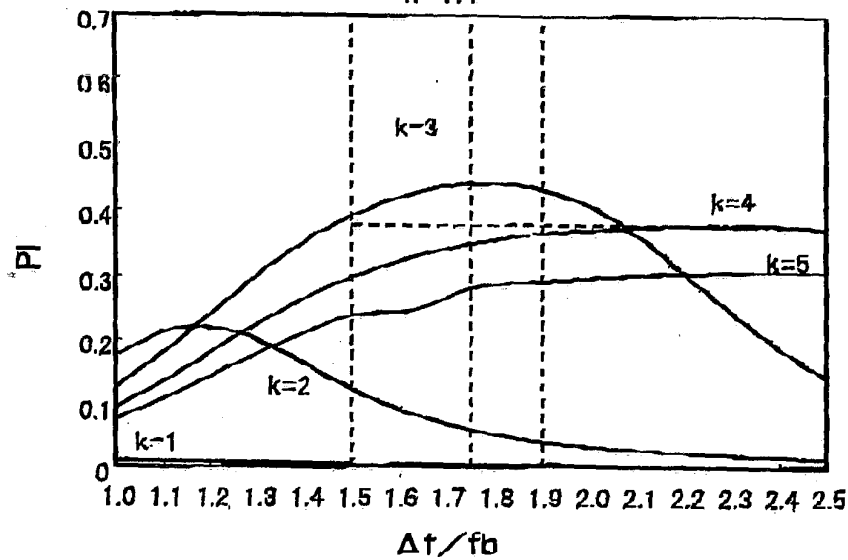
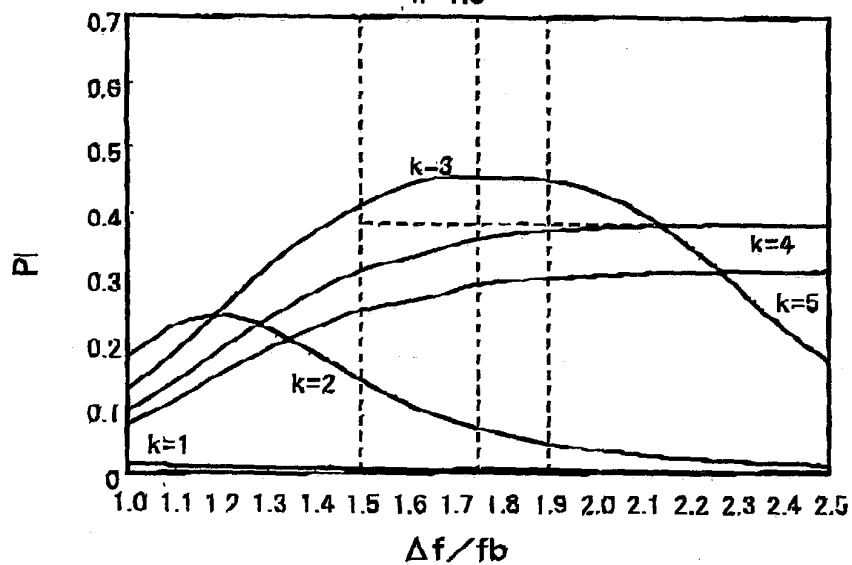
 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=1.4$ 

FIG.16

 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=1.5$ 

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FIG.17

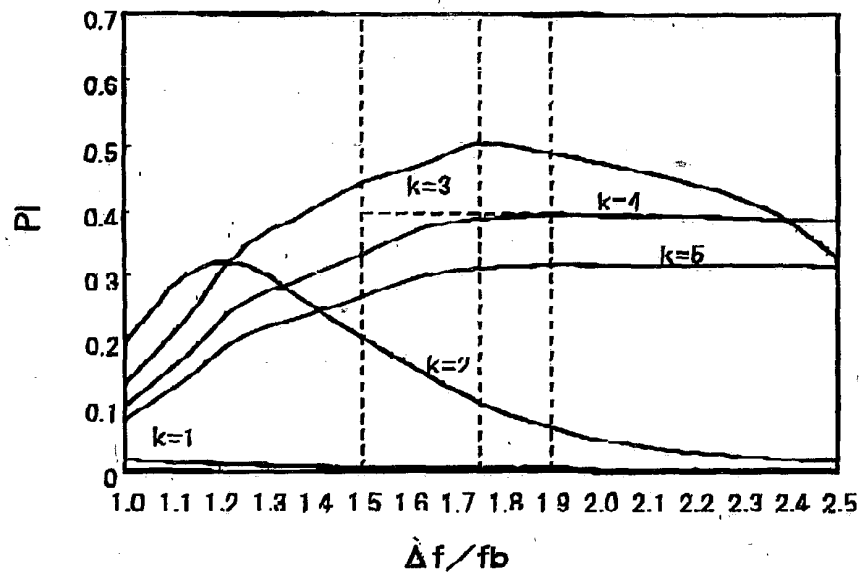
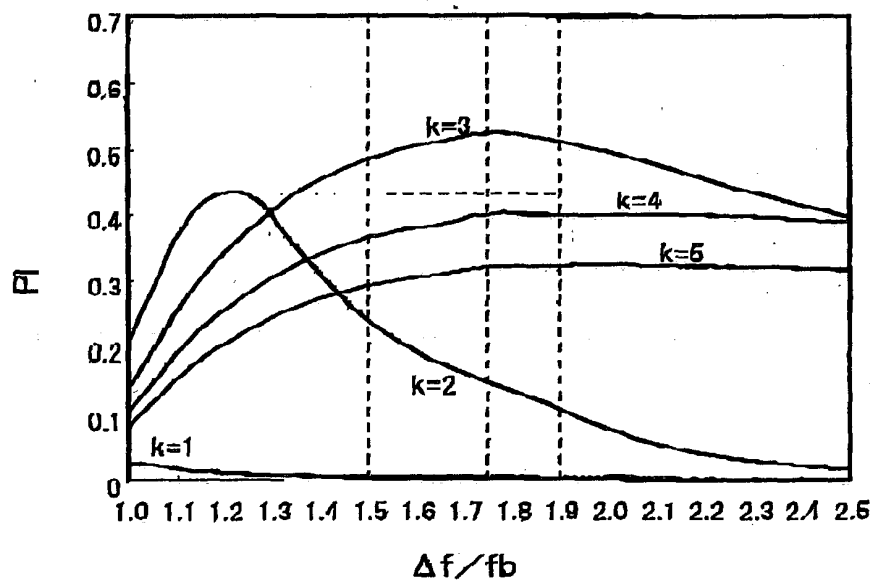
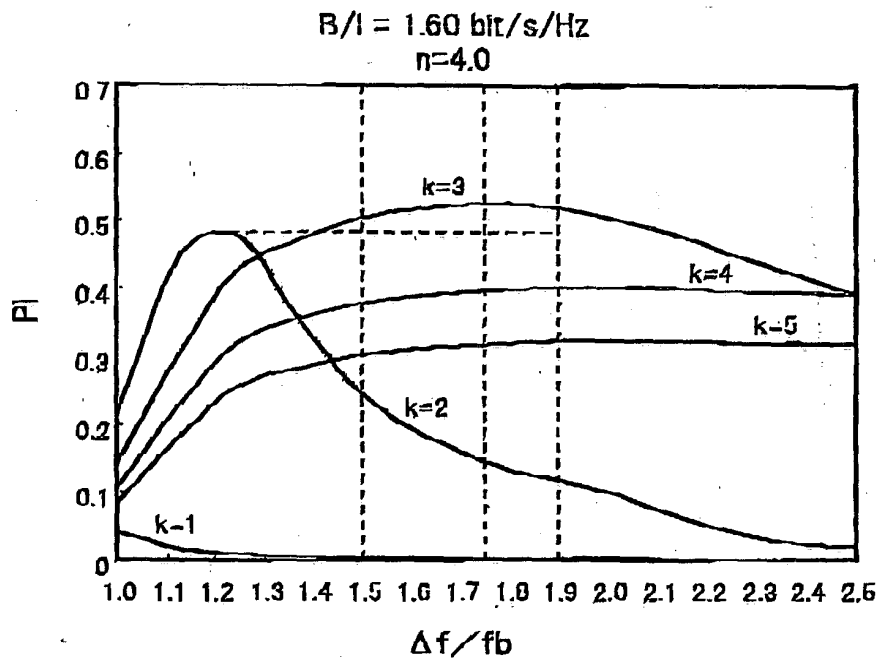
 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=2.0$ 

FIG.18

 $B/I = 1.60 \text{ bit/s/Hz}$
 $n=3.0$ 

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FIG.19



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FIG.20

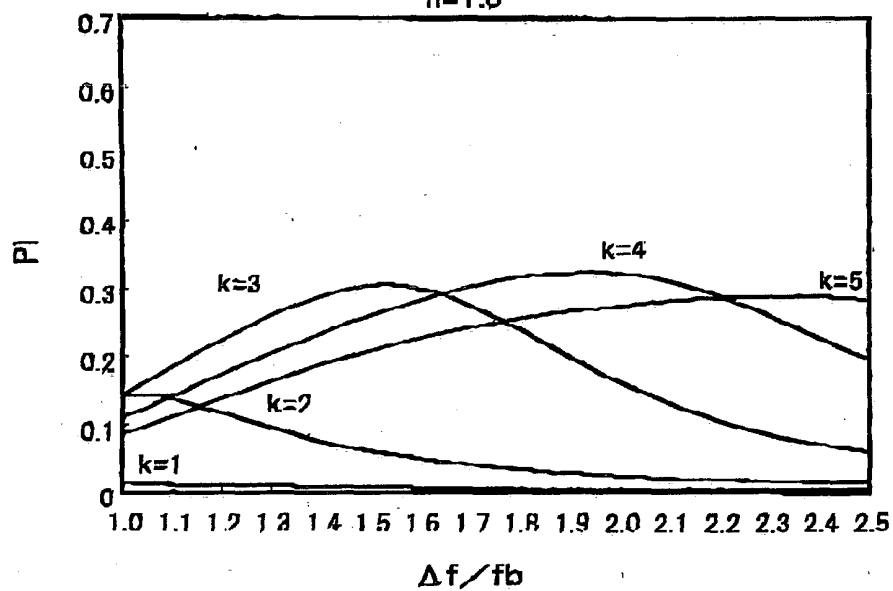
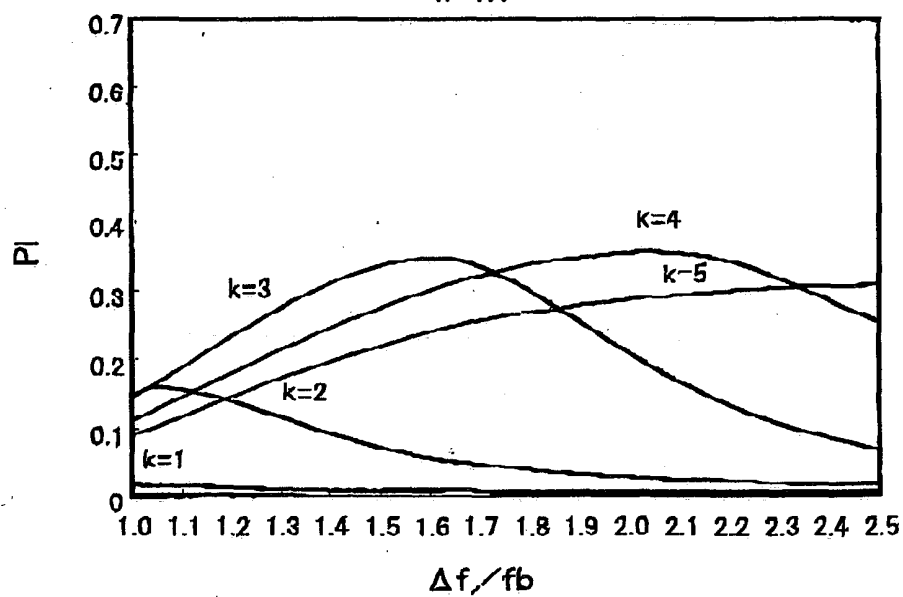
 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=1.0$ 

FIG.21

 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=1.1$ 

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FIG.22

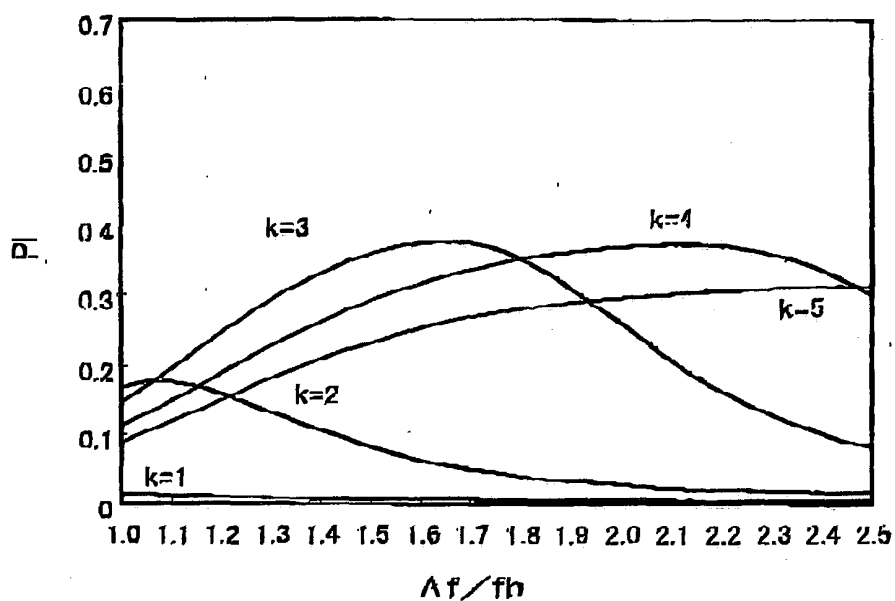
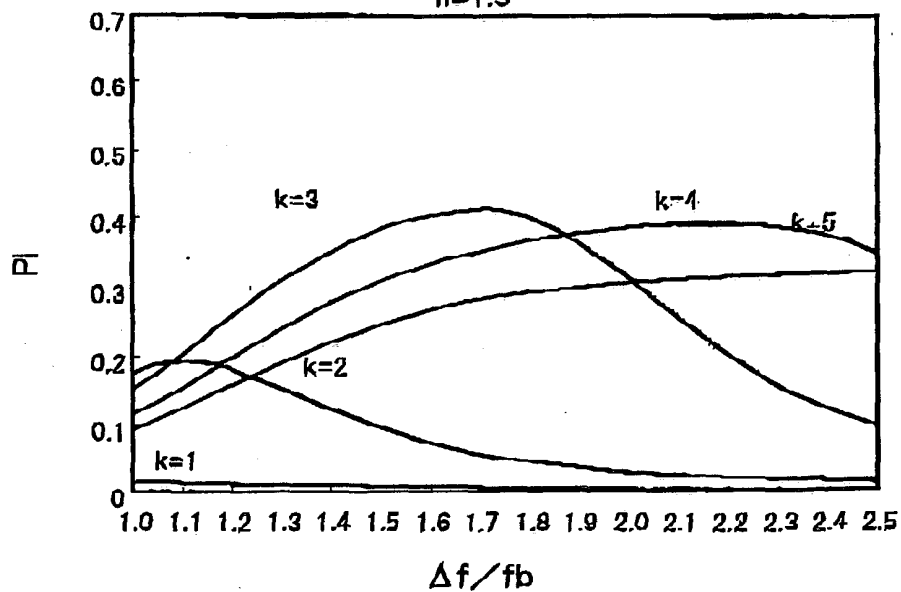
 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=1.2$ 

FIG.23

 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=1.3$ 

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FIG.24

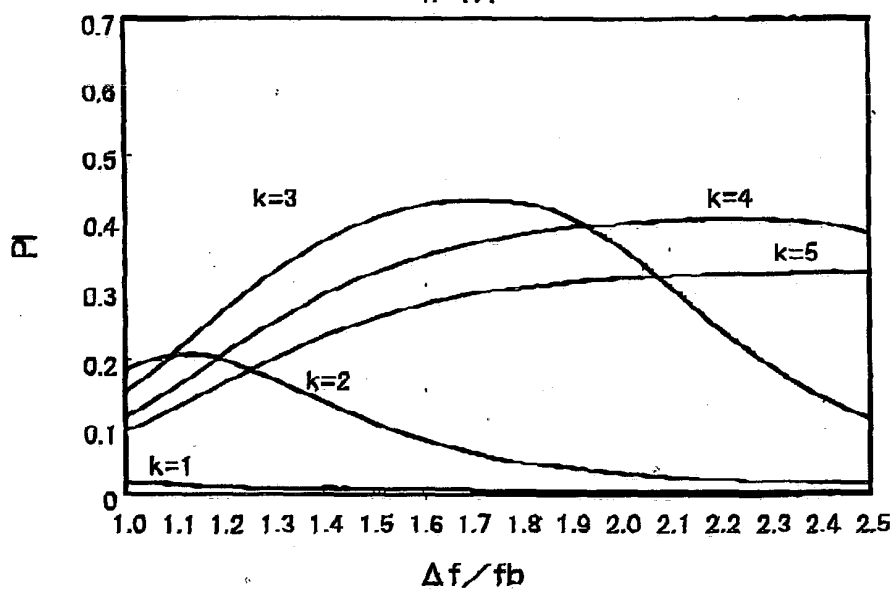
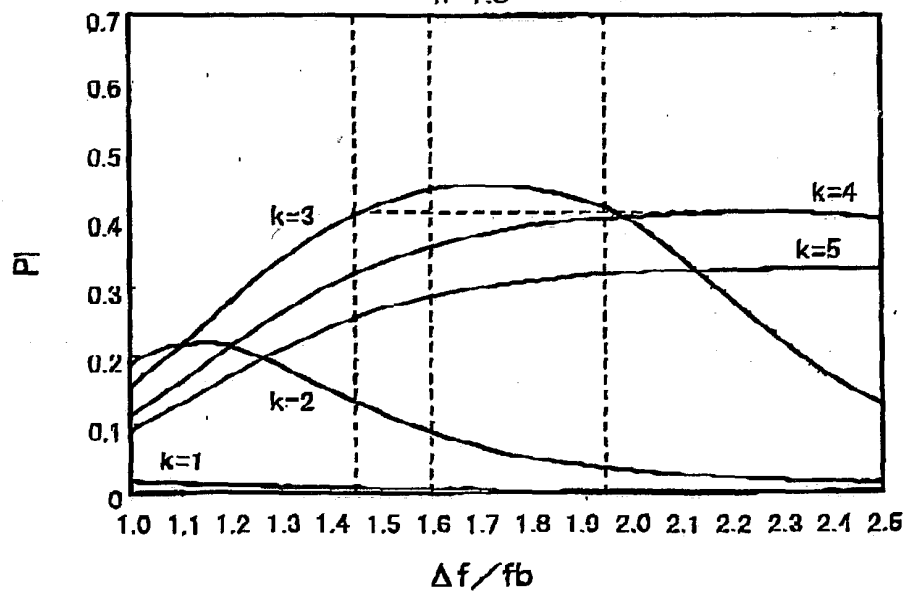
 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=1.4$ 

FIG.25

 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=1.5$ 

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FIG.26

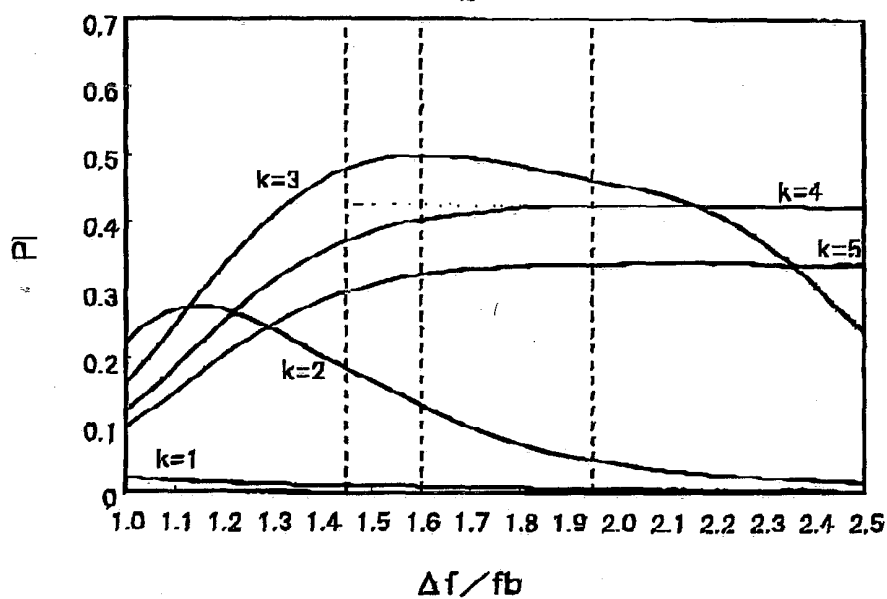
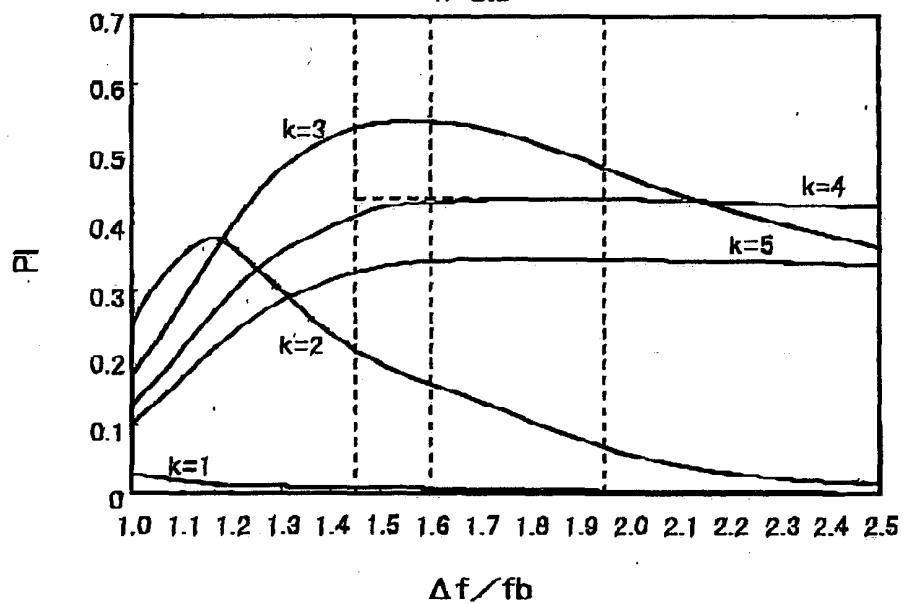
 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=2.0$ 

FIG.27

 $B/I = 1.72 \text{ bit/s/Hz}$
 $n=3.0$ 

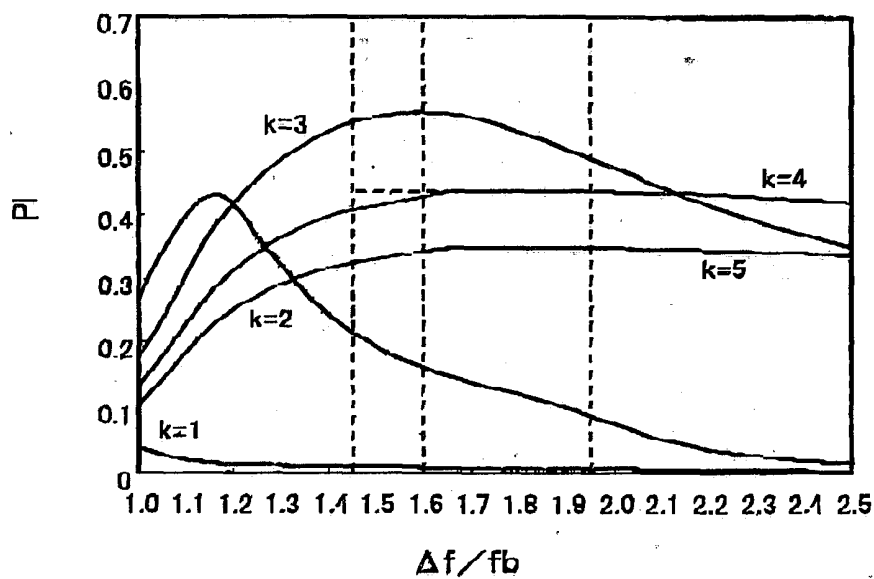
FROM

(THU) 06. 26' 03 14:19/ST. 14:06/NO. 3550062252 P 46

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FIG.28

$B/1 - 1.72 \text{ bit/s/Hz}$
 $\pi=4.0$



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FIG.29

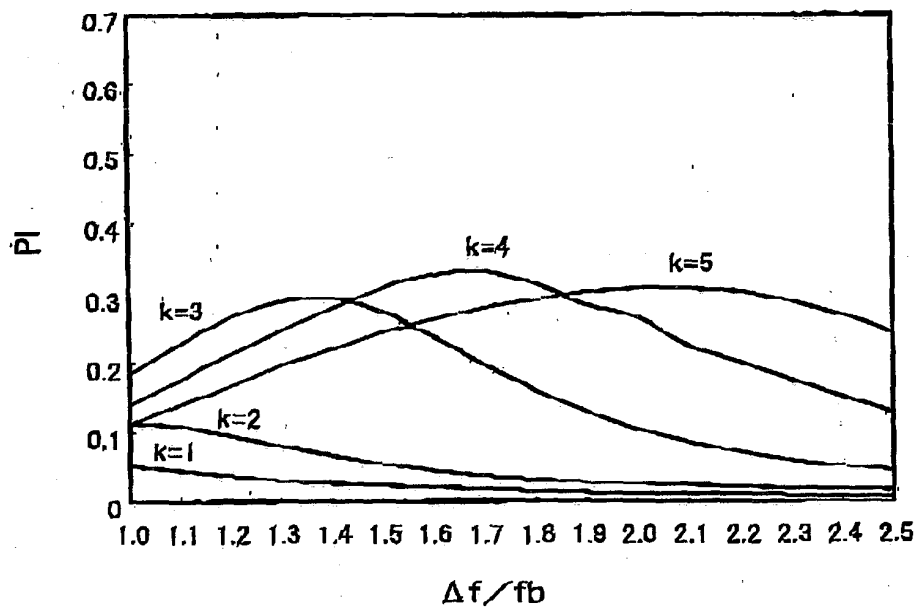
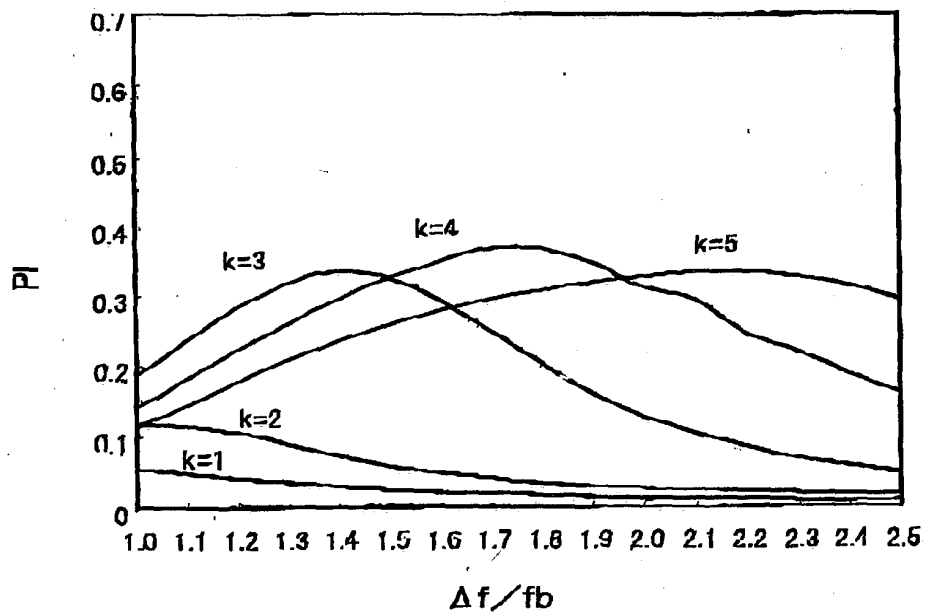
 $B/I = 2.00 \text{ bit/s/Hz}$ $n=1.0$ 

FIG.30

 $B/I = 2.00 \text{ bit/s/Hz}$ $n=1.1$ 

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FIG.31

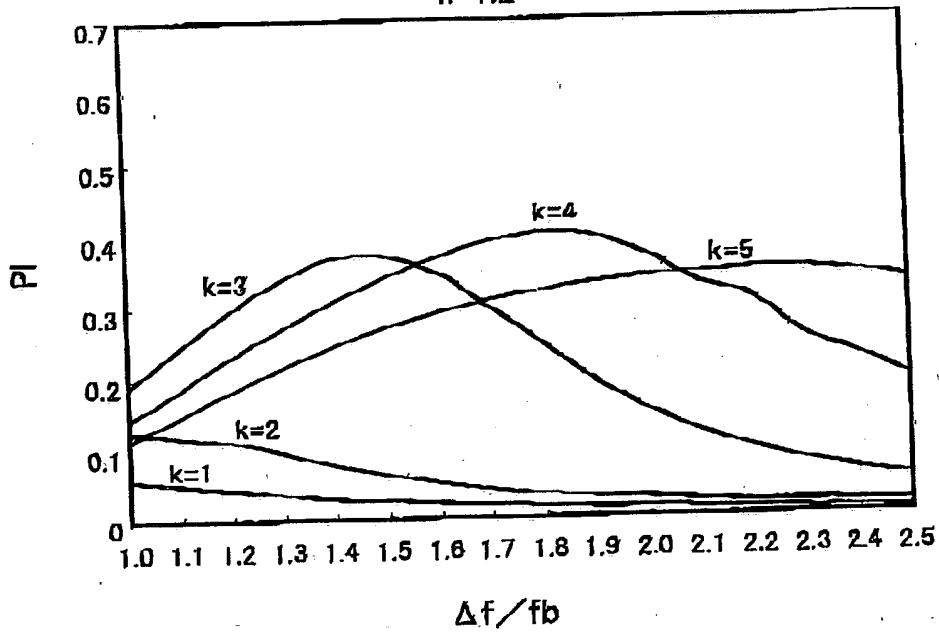
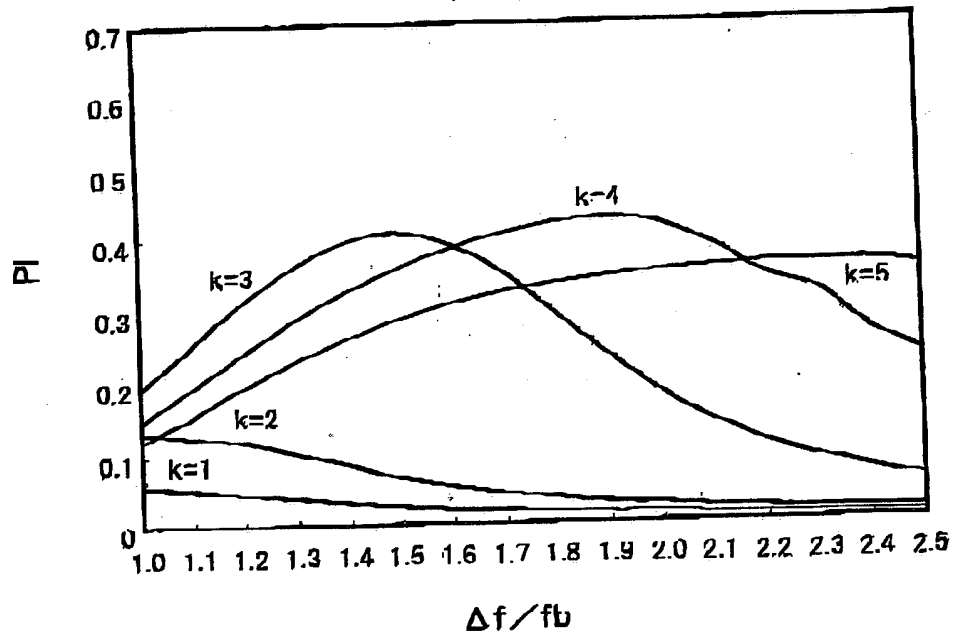
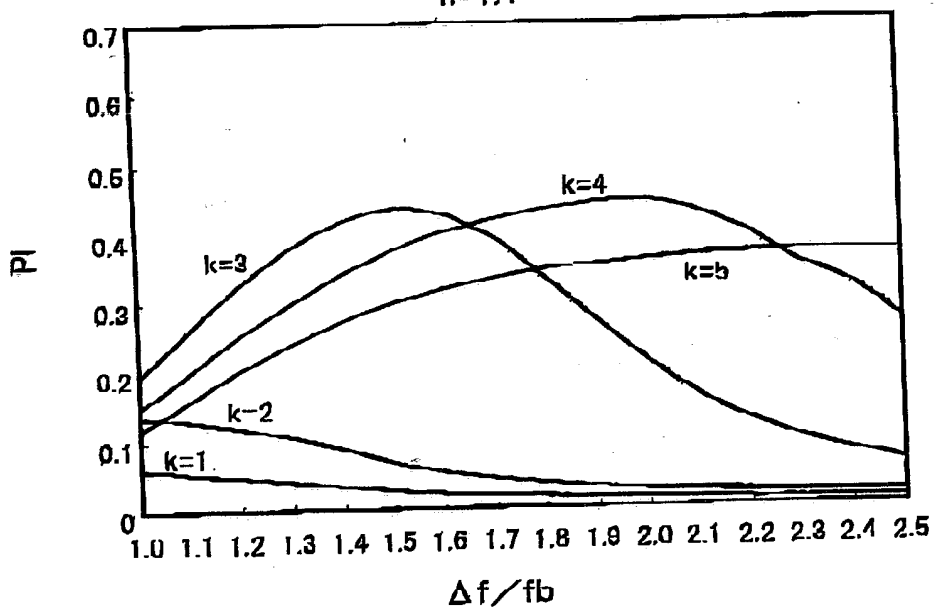
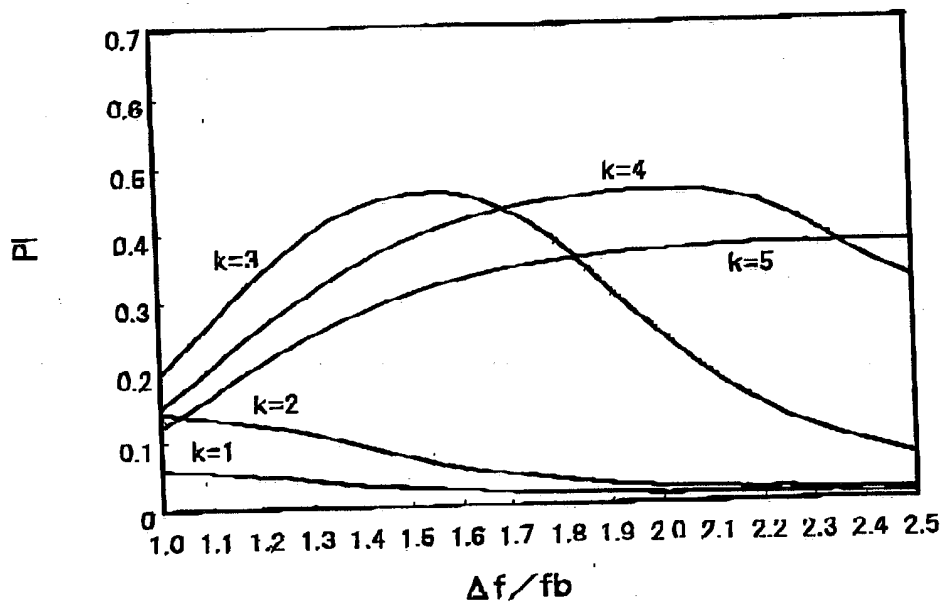
 $B/I = 2.00 \text{ bit/s/Hz}$
 $n=1.2$ 

FIG.32

 $B/I = 2.00 \text{ bit/s/Hz}$
 $n=1.3$ 

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FIG.33 $B/I = 2.00 \text{ bit/s/Hz}$
 $n=1.4$ **FIG.34** $B/I = 2.00 \text{ bit/s/Hz}$
 $n=1.5$ 

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FIG.35

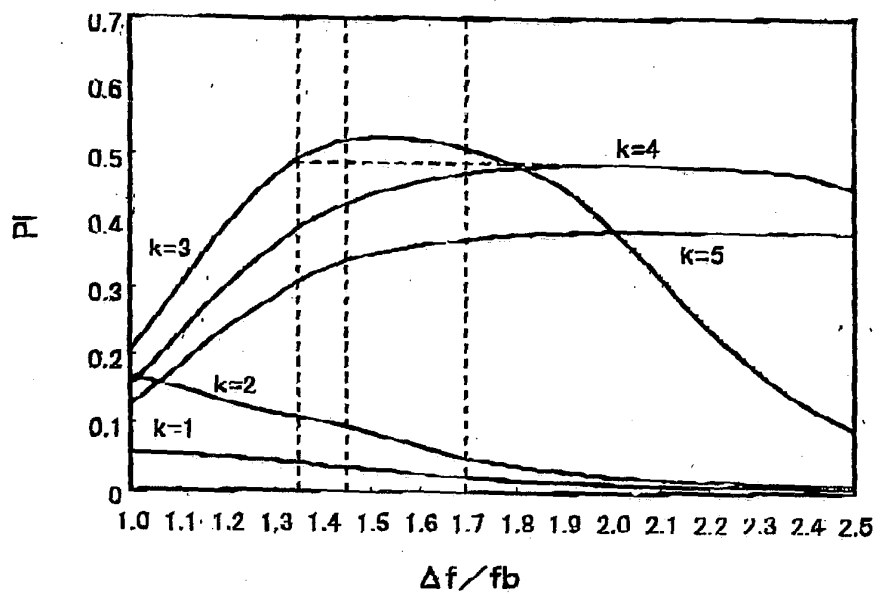
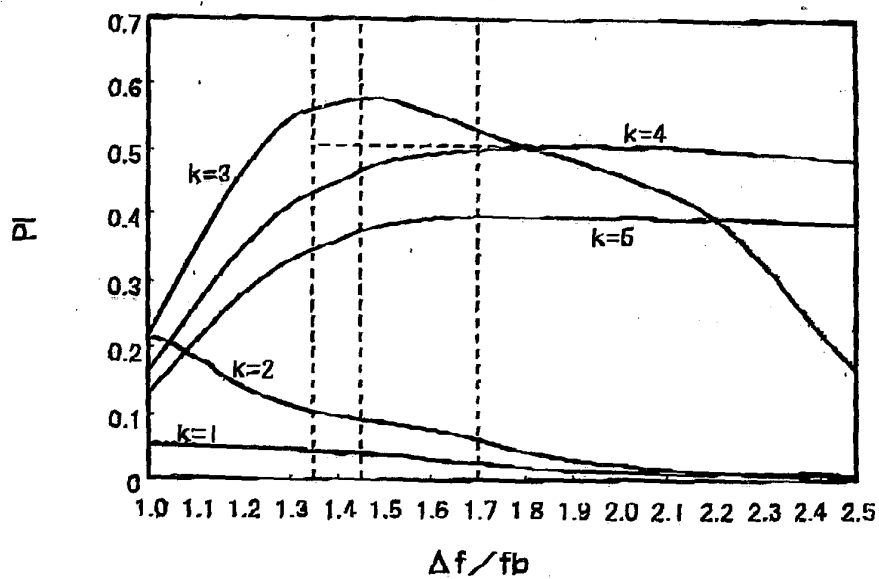
 $B/I = 2.00 \text{ bit/s/Hz}$
 $n=2.0$ 

FIG.36

 $B/I = 2.00 \text{ bit/s/Hz}$
 $n=3.0$ 

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FIG.37

 $B/T = 2.00 \text{ bit/s/Hz}$
 $n=4.0$ 